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# FOOD LABS OF THE FUTURE

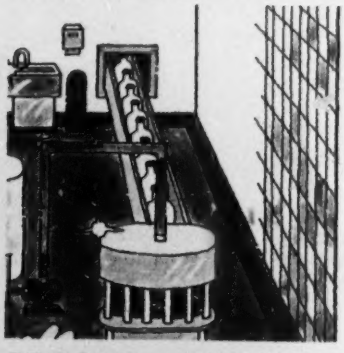
**********5-DIGIT 20814
SUSAN GARNER
CONGRESSIONAL INF SVC.1080
4520 EAST-WEST DIR
BETHESDA MD 20814

# FOOD ENGINEERING

## ABOUT THE COVER

Gone are the days when people consumed foods without regard to what was in them. Food companies are investing more time and money in food labs with state-of-the-art analytical equipment to better serve consumers and to provide a better bottom line. Photo courtesy of Hewlett-Packard.

**PAGES 81 TO 99**



## SPECIAL EMPHASIS

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## ENGINEERED FOODS

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The impact of bioscience has been seen in raw materials, ingredients and finished food products.

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*Royal Lites* is the first national no-fat, no-cholesterol frozen dairy dessert.

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Telemarketing is providing accurate database information about food and beverage company customers and their competition.

**40 Choices—Nutrition and the Environment**
This new motivator is changing consumer criteria for selecting foods in the marketplace.

## FOOD PACKAGING

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The Micro Match system redirects microwave energy in packaging and improves heat uniformity.

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High barrier stand-up pouches offer the ultimate in convenience for energy drinks.

**66 Packaging Innovation Center Opened**
International Paper's new $4 million state-of-the-art facility increases the company's ability to develop and test new packages.

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**101 International Dairy Pre-show Report**
The industry's only dairy-specific exhibition allows interaction between suppliers and colleagues.

**107 Roundtable—Flexibility for the Future**
*Food Engineering* got together key people from major food companies and universities to discuss the relation of technology to corporate competitiveness.

**115 Sanitation Cleans Up its Image**
Once regarded as a mop-up operation, sanitation is now recognized as essential to the company's bottom line.


## PROCESSING & CONTROL


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System serves as the missing link between process control and MIS.

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A pressurized evaporation cooling system used to ripen fruit cuts labor and energy costs.

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Small regional processors can compete with the giants if they are equipped for refrigerated distribution.

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## Management cites people as problem

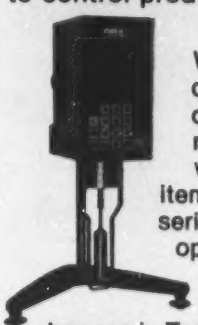
*While more than half the manufacturers in a national survey pointed to "people" as the underlying* ***productivity problem,*** *less than one quarter are willing to invest in "people" to solve the problem. Most, nearly 38 percent, cited investment in new plant or equipment as the single most important step their companies have taken in the past three years to improve productivity.*

***More than half the respondents said labor was the source of problems in productivity. (Source: Grant Thornton.)***

*A telephone survey of 250 mid-sized manufacturers by Grant Thornton, an accounting and management consulting firm based in New York, found that productivity is a problem for close to 70 percent of all companies interviewed. "If the problem is indeed with people, then manufacturers may be applying the wrong solution," said Michael N. Cantwell, chairman of Grant Thornton's National Manufacturing Industry Committee. "Investing in faster production equipment, for example, may actually retard productivity if workers lack adequate skills, training or supervision."*

**Measure viscosity AND YOU Control quality**

Think of viscosity as a product dimension that you can measure just like any other to control product quality.



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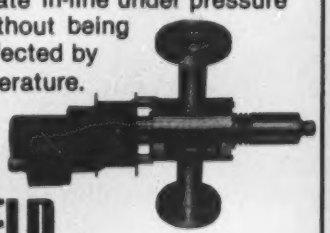

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## Packaging engineers search for identity

Most packaging engineers developed their expertise on the job — only 20 percent were trained as packaging engineers and only 24 percent had a packaging science background. However, 77 percent of the respondents to a recent survey indicated that packaging engineering is a true engineering discipline, according to a survey conducted by J.C. Campbell & Associates of St. Louis and a doctoral candidate at the University of Missouri-Rolla.

When hiring entry-level personnel in packaging engineering, 36 percent of the packaging professionals surveyed preferred applicants with a packaging engineering education and 28 percent, a general engineering degree. Respondents also said that packaging educational **programs should include more technically-oriented packaging courses,** more personal communication courses and more engineering.

The study endorsed the creation of a formal, accredited package engineering degree program to steer top engineering students to the profession.

One of the survey's participants effectively described a packaging engineer as someone who knows "more about engineering than business majors, more about business than engineering majors and more about packaging than any major."

**Packaging engineers' recommendations for ideal professional preparation**

| | |
|---|---|
| Packaging | 50% |
| Personal communication | 37% |
| Engineering | 29% |
| Sales/marketing | 18% |
| Management | 17% |

Total reflects multiple responses.
Source: J.C. Campbell & Associates.

***Packaging engineers listed their recommendations for ideal entry-level professional preparation.***

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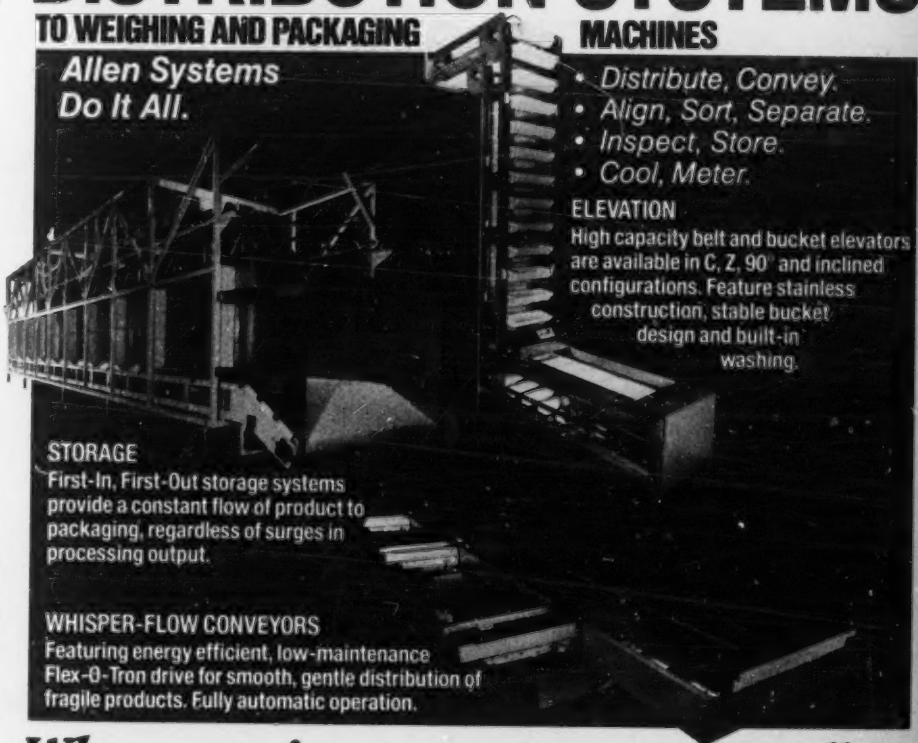

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